



*Empowered lives.
Resilient nations.*

Social media in Africa

**A double-edged sword for
security and development**

Technical annex

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Abbreviations

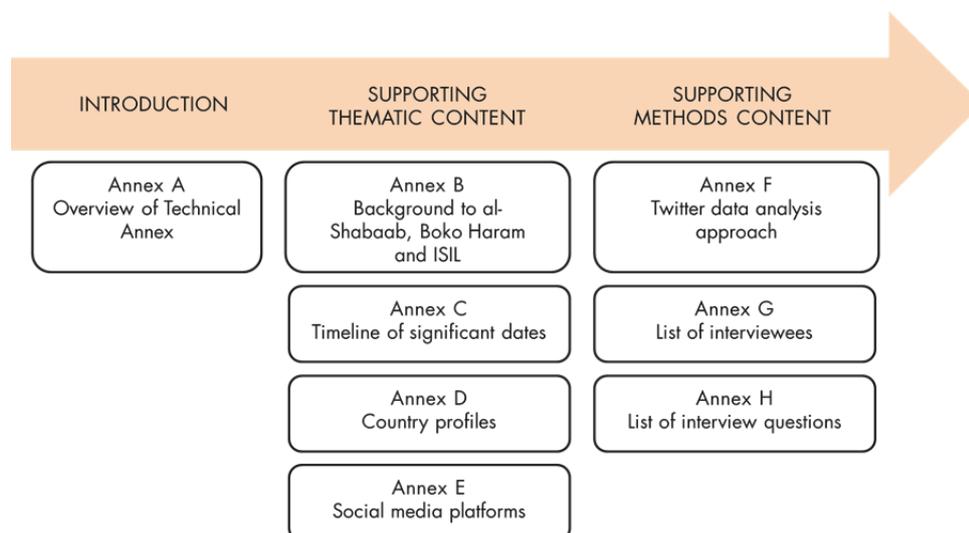
AIAI	al-Itihad al-Islami
AMISOM	African Union Mission in Somalia
AQI	al-Qaeda in Iraq
AQIM	al-Qaeda in the Islamic Maghreb
AU	African Union
GNA	Government of National Accord
GTI	Global Terrorism Index
HSMPress	Harakat Al-Shabaab Al Mujahideen Press Office
IED	Improvised Explosive Device
IDP	Internally Displaced Persons
ISI	Islamic State of Iraq
ISIL	Islamic State of Iraq and the Levant
ISIS	Islamic State in Iraq and Syria, or Islamic State of Iraq and al-Sham
ISWAP	Islamic State West Africa Province
LNA	Libyan National Army
LRA	Lord's Resistance Army
MNJTF	Multinational Joint Task Force
UN	United Nations
UNDP	United Nations Development Programme
VBIED	Vehicle Borne Improvised Explosive Device

Annex A: Overview of Technical Annex

This Technical Annex acts as a repository of supporting information to the final report. It contains thematic content in relation to the case study terrorist groups and the countries examined (Annexes B–E), as well as methodological content in relation to the Twitter data analysis and interviews conducted (Annexes F–H). In addition to this overview, this Technical Annex contains the following annexes:

- **Annex B:** An introductory overview of the three Islamist militant groups analysed in the final report, namely al-Shabaab, Boko Haram and the Islamic State in Iraq and the Levant (ISIL).
- **Annex C:** A chronological overview of significant dates in relation to the three groups examined.
- **Annex D:** A description of the security dynamics in the seven focus countries of this study: Cameroon, Chad, Kenya, Nigeria, Somalia, Sudan and Uganda.
- **Annex E:** An outline of the various social media platforms, communications technologies and apps referred to in the final report.
- **Annex F:** A description of the methodology used to collect and analyse Twitter data – one of the three components of the study methodology.
- **Annex G:** A list of experts who took part in study interviews.
- **Annex H:** An overview of the types of questions asked during the research interviews.

Figure A.0.1 Structure of the Technical Annex



Annex B: Background to al-Shabaab, Boko Haram and ISIL

This annex describes the three Islamist militant groups analysed in the final report, namely al-Shabaab, Boko Haram and ISIL. Though each has distinct goals and structures, all three groups have emerged and developed partly as a response to a number of common geopolitical factors. The groups are all set against a wider backdrop of poverty¹ and unemployment,² and present themselves as alternatives to corrupt and oppressive regimes.

Figure B.0.1 Overview of al-Shabaab, Boko Haram and ISIL

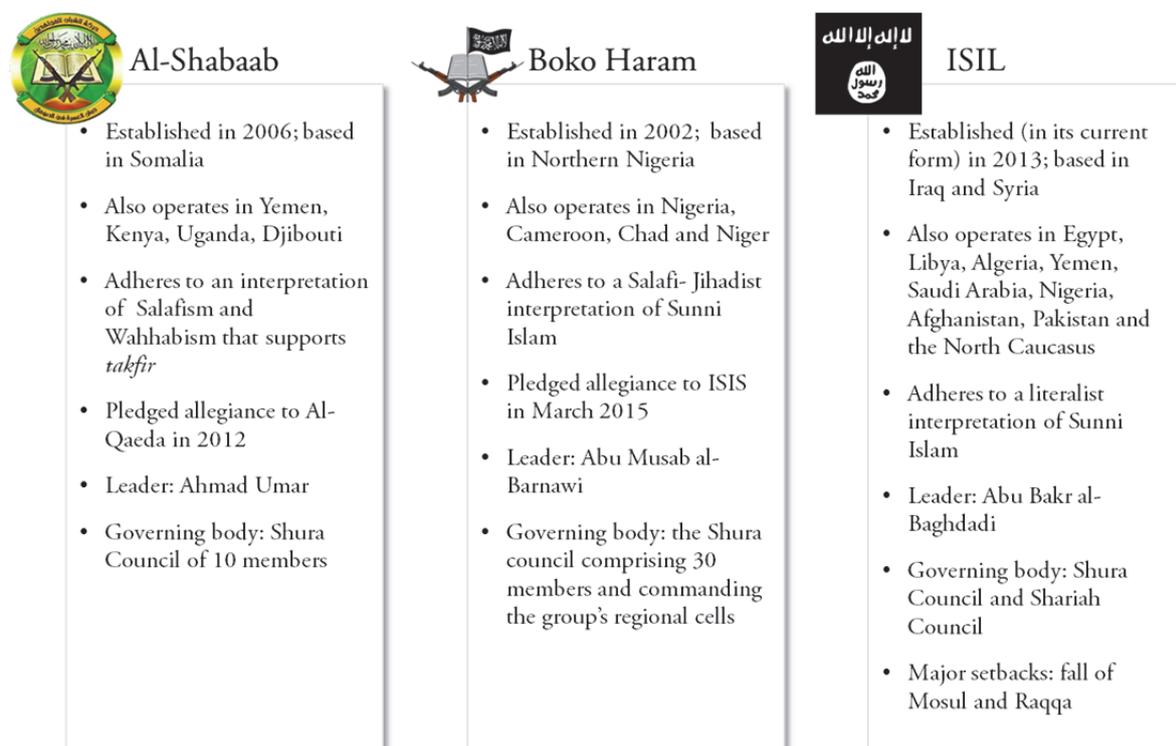


Figure B.0.1 above provides a comparative overview of the origins, primary areas of operation, aims and governance models of the three groups, which are described in more detail in the following sections.

¹ According to the UNDP Human Development Index, for example, Nigeria is classified in the 'low human development' bracket, occupying position 152 of 188, while Somalia's Gross National Income is classified as 'low' at \$294 per capita. See UNDP (2018).

² For example, in September 2017, unemployment in Nigeria was 18.8 per cent of its total labour force (Trading Economics, 2018); and 54.0 per cent in Somalia (Fortune of Africa, 2018).

Al-Shabaab

Al-Shabaab or ‘Harakat al-Shabab al-Mujahideen’, translated as ‘the youth’, is an Islamist terrorist group based in Somalia. The group aims to establish a fundamentalist Islamist state in Somalia and, more broadly, across the Horn of Africa.³ At present, al-Shabaab reportedly controls most of Somalia’s southern and central regions and has conducted a number of attacks in Somalia, Kenya, Uganda and Djibouti.⁴ Experts trace al-Shabaab’s origins to the Somali rebel group, al-Itihad al-Islami (AIAI) who targeted the Siad Barre military regime (1969–1991) and grew in popularity after the outbreak of the Somali civil war in 1986.

There is speculation that al-Shabaab has ties to Boko Haram in Nigeria.⁵ The Somali group has also reportedly considered aligning with ISIL following several overtures to the group from ISIL operatives, but it ultimately decided against this alliance.⁶ One senior member of al-Shabaab, however, Abdul Qadir Mumin, defected to ISIL in October 2015.⁷

Al-Shabaab’s ideology is a brand of Wahhabism⁸ that supports *takfir*, the ex-communication of apostates or unbelievers.⁹ Beyond its overarching aim of creating a fundamentalist Islamist state, al-Shabaab is said to pursue a wide range of different, and often competing, agendas. The group is characterised by competing clan loyalties and divisions between Gulf-sponsored members with transnational terror aims, and Somali nationalists focused on removing the African Union Mission in Somalia (AMISOM) and the central government from Somalia.¹⁰

In areas under al-Shabaab’s territorial control, the militant group enforces a strict interpretation of Sharia law.¹¹ The lack of effective governance in Somalia previously allowed for al-Shabaab to control key territorial areas, including the capital, Mogadishu, and Kismayo, the commercial capital of the autonomous Jubaland region. However, since the installation of a new, internationally backed government in 2012, Somalia has become increasingly stable and al-Shabaab has lost effective control of its key territories.¹² In August 2011, al-Shabaab was forced out of Mogadishu, following an African Union (AU)-led offensive, and the group was removed from the port of Kismayo in September 2012.¹³

Al-Shabaab is a hierarchical organisation with its current leader, Ahmad Umar, referred to as a ‘prince’ or ‘commander’.¹⁴ The group leadership consists of a Shura Council¹⁵ of ten members appointed by Umar,

³ Counter Extremism Project (2017a).

⁴ Stanford University (2017a).

⁵ START (2014).

⁶ Gaffey (2017).

⁷ Kriel & Duggan (2015).

⁸ Wahhabism is a Sunni Islamic movement originating in the eighteenth century that seeks to purify Islam of any innovations of practices that deviate from the seventh-century teachings of the Prophet Muhammad (Blanchard 2008).

⁹ Counter Extremism Project (2017a).

¹⁰ Masters & Sergie (2015).

¹¹ Masters & Sergie (2015).

¹² BBC News (2017a).

¹³ BBC News (2016).

¹⁴ Counter Extremism Project (2017a).

who oversee the regional commanders managing the group's presence in Mogadishu, Bay and Bakool, Puntland, Somaliland, and Juba Valley.¹⁶ Junior leaders manage the group's media branch, al-Kataib ('the brigade'), which produces video recruitment and propaganda content disseminated internationally (see Chapter 3 of the final report).¹⁷ Al-Shabaab's military wing is organised into two branches: Jaysh Al-'Usr ('army of hardship'), which is the group's external military body, and Jaysh Al-Hisbah ('army of morality'), which acts as the group's morality police and enforces a strict interpretation of Sharia law within the group and territories under its influence or control.¹⁸

Social media has become increasingly central to al-Shabaab's strategy and the group has an ambitious online strategy. While only 1.7 per cent of the Somali population (193,000 people) had access to the Internet in 2016,¹⁹ al-Shabaab has made increasing use of Twitter and Facebook in order to share its messages and to engage with these individuals. Given that Internet users constitute only a small fraction of the population, however, al-Shabaab also makes frequent use of its own radio station, Radio Andalus, in communities in order to share its content with local Somalis.²⁰ Chapter 3 of the final report provides a more detailed analysis of al-Shabaab's social media strategy and its online engagement with followers, sympathisers, potential recruits, the media, and the public more generally.

Boko Haram

Boko Haram, or Jama'atu Ahlis Sunna Lidda'awati wal-Jihad, is an Islamist militant group that is primarily based in north-eastern Nigeria, but also operates in Cameroon, Chad and Niger.²¹ Within Nigeria, the group is particularly active within three northern states: Borno, Yobe and Adamawa.²² The group adheres to a Salafi-Jihadist interpretation of Islam and its principal objective is to establish a Caliphate, or Islamic State, in Nigeria.²³

Founded in 2002 by the Salafist cleric Mohammed Yusuf, Boko Haram first emerged as a moderate organisation that did not employ violence.²⁴ In 2009, however, Boko Haram shifted to a more violent approach in response to the Nigerian government's crackdown against the group and the death of Yusuf in police custody. Since 2011, under the leadership of Abubakar Shekau, Boko Haram has increased the frequency and intensity of its attacks on government targets, local police, the military, and civilians.²⁵ The group's tactics have also increasingly included suicide bombings carried out by women and children.²⁶ The group primarily targets state and federal buildings but has increasingly targeted civilians under

¹⁵ 'Shura' is an Arabic term for 'consultation', and the Quran encourages Muslims to decide their affairs in consultation with those who will be affected by that decision.

¹⁶ Counter Extremism Project (2017a).

¹⁷ Counter Extremism Project (2017a).

¹⁸ Counter Extremism Project (2017a).

¹⁹ BBC News (2017b).

²⁰ Hodge (2014).

²¹ Counter Extremism Project (2017b).

²² AFP (2013).

²³ Counter Extremism Project (2017b).

²⁴ Counter Extremism Project (2017b).

²⁵ Sergie & Johnson (2015).

²⁶ Counter Extremism Project (2017b).

Shekau's leadership, including attacks on schools, markets and religious institutions. One of the most highly publicised attacks was the kidnapping of 276 schoolgirls in Chibok in April 2014, which received significant international press attention.

Boko Haram has reportedly been influenced by al-Qaeda in the Islamic Maghreb (AQIM), training alongside and receiving funding from the group during or prior to 2012.²⁷ Claims have also been made – for example, by US Africa Command Commander General Carter Ham in 2012 – linking Boko Haram to al-Shabaab in relation to training and tactical coordination.²⁸ In March 2015, Boko Haram pledged allegiance to ISIL in an online audio message. Later the same month, ISIL accepted the pledge and the Nigerian group rebranded itself as the Islamic State West Africa Province (ISWAP).²⁹

The group has a de-centralised organisational structure. A Shura Council sits below the leader of the organisation and comprises 30 members responsible for commanding the group's regional cells.³⁰ These groups differ in their tactics, which include the use of bands of militants, intelligence and surveillance, as well as suicide bombings and other terrorist means. Boko Haram militants are also said to differ in their motives for supporting the group: while many follow Salafi-takfirist doctrine, others are non-religious individuals reportedly motivated by grievances in relation to government corruption, poverty and sectarian tensions between Christians and Muslims.³¹

As Chapter 4 of the final report describes in more detail, Boko Haram's use of social media is not as sophisticated as that of al-Shabaab but the group has seen a marked evolution in its use of social media strategy. In 2009, this use of social media was virtually non-existent, with the group primarily using audio cassettes delivered on street corners in Nigeria to convey the lectures and messages of Yusuf.³² Its allegiance to ISIL, however, has more recently exposed the group to a well-established and significant social media base.³³ Boko Haram militants' use of social media is likely to have been influenced by the rapid increase in Internet access across Nigeria in recent years, with Internet access tripling between 2012 and 2015.³⁴

ISIL

ISIL, also known as the Islamic State (IS) and the Islamic State of Iraq and Syria (ISIS), is a Salafi-jihadist group that adheres to a literalist interpretation of Sunni Islam.³⁵ The group was a major participant in the Iraqi insurgency against the US, first under the name Jam'at al-Tawhid and then as al-Qaeda in Iraq

²⁷ Stanford University (2017b).

²⁸ US Africa Command (2012); START (2014); Blanchard (2014); Connell (2012).

²⁹ Throughout this Technical Annex and in the final report, the name 'Boko Haram' is used instead of 'ISWAP' to refer to the Nigerian militant group in order to distinguish it from ISIL and given that this study focuses on the group's activities both before and after 2015.

³⁰ Stanford University (2017b).

³¹ Stanford University (2017b).

³² Abubakar (2017).

³³ BBC News (2015a).

³⁴ Mahmood (2017).

³⁵ Counter Extremism Project (2017c).

(AQI),³⁶ before its formal setup as ISIL in 2013 with the goal of establishing and expanding a Caliphate.³⁷ In 2013, the group captured large swathes of territory in Iraq and Syria.

ISIL also focuses on targeting the West to a far greater extent than al-Shabaab or Boko Haram. From 2014 to February 2017, ISIL perpetrated 140 terrorist attacks in 29 countries,³⁸ employing tactics including the use of improvised explosive devices (IEDs), vehicle borne improvised explosive devices (VBIEDs), and beheadings. Recently, ISIL has encouraged 'lone wolf' attacks in Europe in particular, with its magazine *Rumiyah* encouraging the use of low-barrier, crude tactics that include arson, knife attacks and vehicle attacks.³⁹ These attacks are particularly important in the light of territorial losses in Iraq and Syria and the increased pressure from a number of external groups, such as the US- and Russian-led bombing campaigns, Iranian-backed militias and the Iraqi army.⁴⁰ With the fall of Raqqa, the attacks on the West bear reputational significance, ensuring that ISIL is able to exploit the return of many foreign fighters back to their countries of origin in the West or Middle East.⁴¹

ISIS maintains a strictly hierarchical structure.⁴² Its Sharia Council governs the group and comprises six members responsible for ensuring the implementation of Sharia law and for selecting the Caliph.⁴³ Below this governing body, ISIL has several additional councils, where each possesses a specific function in relation to financial governance, leadership, military affairs, legal governance, fighters assistance, security, intelligence and media management.⁴⁴ ISIL's media council manages the group's social media strategy and the Al-Hayat Media Center is its central propaganda office.⁴⁵ The group further has several regional media offices, including Al-Furqan and Al-Itisam, as well as the news agency, Amaq Agency, and Bayan Radio, located in Libya.⁴⁶ As Chapter 5 of the final report describes in more detail, ISIL has the most sophisticated social media strategy of the three groups examined in this study, using the widest range of platforms and appearing to influence the social media strategies of other groups including Boko Haram (see Chapter 4).

The final report outlines the online strategies of al-Shabaab (Chapter 3), Boko Haram (Chapter 4) and ISIL (Chapter 5), before exploring the social media narratives created on Twitter in relation to the three terrorist groups (Chapter 6).

³⁶ After its leader, Abu Musaab-al Zaqarwi, swore allegiance to al-Qaeda Central and Osama Bin Laden (Stanford University 2017c).

³⁷ Stanford University (2017c).

³⁸ Lister et al. (2017).

³⁹ Engel (2017).

⁴⁰ Hubbard and Schmitt (2017).

⁴¹ Muir (2017).

⁴² Stanford University (2017c).

⁴³ Stanford University (2017c).

⁴⁴ Stanford University (2017c).

⁴⁵ Stanford University (2017c).

⁴⁶ SITE Intelligence Group Enterprise (2017).

Annex C: Timeline of significant dates

This annex presents a chronological overview of significant dates in relation to the three terrorist groups analysed in the final report: al-Shabaab, Boko Haram and ISIL. The longlist of dates presented in Tables C.0.1–C.0.3 were those that the study team expected to generate the highest level of Twitter discussion, with dates identified relating to attacks with a high death toll, mass kidnappings, statements of allegiance between terrorist groups, major operational setbacks, loss of territory and other significant events. From this longlist, the study team selected a shortlist of dates considered to have the highest potential influence on the volume of Twitter discussion. Presented in Tables C.0.4–C.0.6, these shortlisted dates were used to structure our Twitter data queries (see Annex F for more details of our Twitter data analysis approach).

Table C.0.1 Longlist of key dates relating to al-Shabaab

Date	Event
2012	
9 Feb 2012	Al-Shabaab and al-Qaeda announce their formal merger: former al-Shabaab leader Ahmed Abdi Godane says he 'pledges allegiance' to the leader of al-Qaeda, Ayman al-Zawahiri.
2 Oct 2012	Backed by local Somali forces, Kenyan troops sweep into Somalian city of Kismayo, expelling al-Shabaab from its last major stronghold, and cutting off a significant funding source.
14 Dec 2012	Al-Shabaab claims via Twitter that its 'intelligence units' had carried out an attack in Mogadishu on a convoy carrying top US counterterrorism official Davis Julius, injuring him and killing his senior escorts.
2013	
12 Jan 2013	Following an unsuccessful French commando raid to rescue French hostage Denis Alex, al-Shabaab tweets an announcement in English, stating its version of the events. The group claimed that the French operation was based on 'an intelligence blunder', and that the French force had sustained several fatalities before fleeing the battlefield. It announced that 'the final verdict' for Alex would be issued within two days, providing no further details about his condition.
14 Jan 2013	Al-Shabaab tweets a statement according to which the French commando who it said had been wounded and subsequently captured by the group during the previous week's failed operation had died of his wounds in hospital, including several graphic images of the dead soldier and a photo of captured French weapons. In one of the photos, a cross could be seen around the dead soldier's neck, accompanied by a comment from al-Shabaab: 'a return of the crusades, but the cross could not save him from the sword'.

16 Jan 2013	Al-Shabaab (@hsmmpress) tweets confirming the decision to execute Denis Alex, following the failed French operation on January 12 to free him. According to the tweet, the execution would avenge the deaths of civilians killed during the operation; it also included a lengthy statement in English. The group tweeted later the same day that Denis Alex is executed.
17 Jan 2013	The United States formally recognises the government of Somalia after more than a twenty-year break.
4 Feb 2013	Al-Shabaab opens up new Twitter account @HSMPress1
13 Jul 2013	Al-Shabaab takes responsibility for a suicide operation that it claimed had killed African and U.S. intelligence operatives and, most importantly, had severely wounded CIA director of operations in East Africa, Gary Schroen.
6 Sep 2013	@HSMPress1 gets shut down by Twitter.
11 Sep 2013	Al-Shabaab sets up another Twitter account.
21–24 Sep 2013	In a multi-day raid on a Westgate mall in Nairobi, al-Shabaab militants kill dozens in the deadliest terrorist attack in Kenya in fifteen years.
2014	
21 Feb 2014	Al-Shabaab attacks Villa Somalia, the presidential palace compound, with a car bomb before entering the compound to engage in a gunfight with guards, killing over 14 people.
15–17 Jun 2014	More than 60 people are killed in attacks in and near Mpeketoni, Kenya. Although al-Shabaab claims responsibility, Kenyan President Uhuru Kenyatta states that the attacks were organised by local politicians with ties to a network of gangs.
4 Sep 2014	Al-Shabaab leader Ahmed Abdi Godane is killed by US air strike in Somalia.
23 Nov 2014	Al-Shabaab massacres 28 Kenyan bus passengers.
2 Dec 2014	Al-Shabaab militants kill 36 Christian quarry workers in Kenya.
3 Dec 2014	Al-Shabaab kills four in attack on United Nations (UN) convoy in Somalia.
2015	
20 Feb 2015	At least 25 dead in al-Shabaab attack on a hotel in Mogadishu
3 Apr 2015	Al-Shabaab carries out an attack at Garissa University in Kenya, near the Somalian border. With 147 people killed, this marked the deadliest attack in al-Shabaab history. Four of the gunmen were surrounded in a dormitory and were killed following the detonation of their suicide vests. Meanwhile, 500 students escaped with 79 injured.
23 Oct 2015	Sheikh Abdulqadir Mumi, a prominent former 'spiritual leader' and recruiter for al-Shabaab, declares allegiance to ISIL from his base in the remote Galgala Mountains, in the semi-autonomous region of Puntland, situated in north-eastern Somalia. Reports indicate that only 20 of Mumi's estimated 300 followers opted to switch sides, making the move largely symbolic and marking ISIL's first official settlement in East Africa.
1 Nov 2015	Al-Shabaab Islamist militants attack a hotel in Somalia's capital, Mogadishu, killing at least 15 people. Gunmen used two car bombs to blast their way into the hotel compound before storming the building, police reported. Victims included at least one Member of Parliament and the general who led the 2011 offensive that drove al-Shabaab out of the capital. AU troops and government forces state they have regained control of the hotel after a violent gun battle. A website associated with al-Shabaab claimed the group was responsible for

	the attack, which was carried out early in the morning, allegedly, to avoid civilian casualties. This attack marks a change in strategy as, until now attacks have been carried out around the clock, indiscriminately killing civilians in targeted areas.
2016	
Jan 2016	Al-Shabaab carries out a massive attack on a Kenyan base in Somalia's el-Ade town in January 2016, killing approximately 180 soldiers, according to Somalia's President Hassan Sheikh Mohamud. The Kenyan military disputed the number, but refused to give a death toll.
13 Feb 2016	Al-Shabaab claims responsibility for the failed suicide bombing of Daallo Airlines Flight 159, which occurred on February 2. The group stated that it originally intended to attack a Turkish Airlines Flight and that it was targeting Western intelligence officials and Turkish NATO soldiers who were on board.
31 Mar 2016	US drone strike in southern Somalia kills Hassan Ali Dhoore and two others near the Kenyan border. Dhoore was thought to have facilitated the 2014 Christmas attack in Mogadishu.
2017	
Jan 2017	Al-Shabaab claims it has killed 50 Kenyan soldiers in an attack on the base in the town of Kolbiyow in southern Somalia.
2 Jan 2017	Al-Shabaab claims responsibility for suicide bombing outside a checkpoint of the AU AMISOM in Mogadishu.
27 Jan 2017	Al-Shabaab attacks a Kenyan military base in Somalia, with both the militants and Kenyan military claiming dozens of deaths on the opposite side.
8 May 2017	Al-Shabaab claims responsibility for a suicide car bomb attack killing over eight people near a café in Mogadishu, Somalia.
8 Jun 2017	Following an al-Shabaab attack on a military base in Somalia, 70 people are killed, both soldiers and civilians.
11 Jun 2017	US strikes Sakow – one of al-Shabaab's main training bases in Somalia.
14 Jun 2017	Over 17 people are killed and more than a dozen taken hostage in an attack claimed by al-Shabaab.
20 Jun 2017	Al-Shabaab kills over 15 people with 18 injured, in a car bomb attack in Mogadishu, Somalia.
Jul 2017	Nine civilians are killed in Kenya.
30 Jul 2017	AU troops are killed in al-Shabaab ambush in the Bulamareer district of the Lower Shabelle region, about 140km southwest of the capital, Mogadishu. An al-Shabaab spokesman claims the group has killed 39, meanwhile an Official in the Lower Shebelle region of Somalia confirms 24 soldiers are dead.
11 Sep 2017	Al-Shabaab militants attack a Somali military base and police station nearing the border with Kenya, killing eight soldiers. Al-Shabaab releases a statement, claiming it has killed 30 soldiers.
14 Oct 2017	At least 500 people reported to have been killed or seriously injured in Mogadishu, Somalia, following truck bomb attack blamed on al-Shabaab, marking it as one of the most lethal terrorist attacks in the world in recent years.

Table C.0.2 Longlist of key dates relating to Boko Haram

Date	Event
2012	
5–6 Jan 2012	Bombing kills at least 180 people in Nigerian city Kano, making it the deadliest attack to date.
23 Aug 2012	Unverified media reports claim that Boko Haram has commenced peace talks with the Nigerian government while Boko Haram spokesman Abu Qaqa warns the media in his speech: ‘We are telling the government to understand that if it is not ready to embrace Sharia and the Quran as the guiding book from which the laws of the land derive, there shall be no peace... [and media agencies] should understand that for us there is no difference between those fighting with guns and with the pen’.
25 Dec 2012	In Nigeria 27 Christians are killed in Maiduguri and Potiskum by suspected Boko Haram militants.
2013	
19 Feb 2013	Militants claiming to be affiliated to Boko Haram (unconfirmed) kidnap a French family of seven in a national park in northern Cameroon; the family is later released.
19 Apr 2013	Boko Haram clashes with multinational security forces from Niger, Nigeria and Chad in the city of Baga in Borno State, leaving nearly 200 people dead, including many civilians. Boko Haram leader Abubakar Shekau releases a video in May stating that Boko Haram is not responsible for the deaths of civilians.
15 May 2013	Nigeria’s Ministry of Defence announces a military offensive has begun in Borno, Adamawa and Yobe to ‘rid the nation’s border territories of terrorist bases and activities’.
4 Jun 2013	Nigerian President Goodluck Jonathan approves the prohibition of Boko Haram and its splinter group Ansaru as terrorist organisations.
14 Aug 2013	Nigeria’s Ministry of Defence announces the death of Boko Haram’s second-in-command, Momodu Baba (known as Abu Saad).
19 Aug 2013	Nigeria’s chief army spokesperson claims Abubakar Shekau may have died after an attack on June 30, however this claim is unverified.
17 Sep 2013	Boko Haram gunmen, disguised in military uniforms, stage a fake checkpoint near Benisheik in Borno, executing travellers and burning vehicles, leaving at least 143 people dead.
25 Sep 2013	A man, whose identity is unverified, appears in a video claiming to be Abubakar Shekau and saying he is alive and well.
13 Nov 2013	The US State Department adds Boko Haram and Ansaru to its list of terrorist organisations.
2014	
26 Jan 2014	At least 45 people are killed in a market in Kawuri in Borno after Boko Haram militants open fire.
11 Feb 2014	At least 23 people are killed when suspected Boko Haram militants torch houses in the village of Konduga, according to the governor of Borno state.

14 Apr 2014	Boko Haram militants kidnap approximately 276 teenage girls from a boarding school in Chibok in Borno. According to officials, some of the girls were able to escape.
5 May 2014	In a video statement, a man claiming to be Abubakar Shekau says, 'I abducted your girls. I will sell them in the market, by Allah...there is a market for selling humans. Allah says I should sell. He commands me to sell. I will sell women. I sell women'.
13 May 2014	Hundreds of Boko Haram militants storm three villages in the state of Borno. Villagers resist, killing more than 200 Boko Haram fighters.
20 May 2014	Twin blasts in the Nigerian city of Jos kill 118 people at a market. Nigerian authorities do not confirm who is responsible.
21 May 2014	The White House announces that the United States has sent 80 troops to Chad to support the search for the kidnapped schoolgirls.
22 May 2014	UN Security Council adds Boko Haram to its sanctions list.
3–4 Jun 2014	Hundreds of people are killed in raids by Boko Haram Islamic militants in the state of Borno, with some sources quoting the death toll at 400 to 500 people.
7–8 Jun 2014	Suspected Boko Haram militants kidnap at least 20 young women in the village of Garkin Fulani, north-eastern Nigeria. The village is situated 8 km from Chibok, where more than 276 schoolgirls were abducted nearly two months earlier.
18–22 Jun 2014	Boko Haram militants hold hostage the village of Kummabza in Borno for four days. During the raid more than 60 women were abducted, including children, and 30 men killed.
7 Jul 2014	Sources report that 63 women and girls kidnapped by Boko Haram last month from the Kummabza village in Borno have escaped and returned to their village. Boko Haram is still believed to be holding about 200 schoolgirls abducted in April from a boarding school in Chibok.
17–20 Jul 2014	Boko Haram raids the Nigerian town of Damboa, killing 66 residents with more than 15,000 having fled.
16 Oct 2014	The Nigerian government announces they have reached a ceasefire agreement with Boko Haram, including the promised release of more than 200 kidnapped Chibok schoolgirls.
1 Nov 2014	In a video, the group's leader denies the Nigerian government's claim of a ceasefire.
2015	
3 Jan 2015	A multi-day raid begins, where hundreds of Boko Haram gunmen seize the town of Baga and neighbouring villages in northern Nigeria. The group also gets hold of a multinational military base. As many as 2,000 people feared dead.
10–11 Jan 2015	At least 20 people are found killed and 18 injured in Maiduguri after explosives, strapped to a girl, are detonated at a marketplace screening checkpoint. At least three are dead and 43 injured after two suicide bombs, strapped to girls, detonate in a mobile phone market in Potiskum. Boko Haram is suspected to be associated with both attacks.
2 Mar 2015	Boko Haram releases a video showing the beheadings of two suspected spies.
7 Mar 2015	In an audio message, allegedly from leader Abubakar Shekau, Boko Haram pledges its allegiance to ISIL.
12 Mar 2015	In an audio message, allegedly from an ISIL spokesman, the group announces that the caliphate has expanded into western Africa and that the leader of ISIL, Abu Bakr al-Baghdadi, has accepted Boko Haram's pledge of allegiance. On the same day, ISIL blows

	up the Iraqi army headquarters north of Ramadi, killing at least 40 Iraqi soldiers.
28–30 Apr 2015	Nigerian troops rescue about 450 women and girls in the Sambisa Forest during a military operation, focused on destroying Boko Haram camps and rescuing civilians. According to the military, none of the rescued women have been identified as the Chibok schoolgirls kidnapped last April.
23 Sep 2015	241 women and children are rescued and 43 Boko Haram militants are arrested after the Nigerian military raids camps, controlled by Boko Haram in two villages.
2016	
13 Jan 2016	A suicide bomber detonates himself inside a mosque at Kouyape, Cameroon, close to the Nigerian border. The blast kills 12 people and wounds one. The attack occurred at dawn and was attributed to Boko Haram although the group hasn't officially claimed responsibility.
25 Jan 2016	Four suspected Boko Haram suicide bombers attack a busy market in the north Cameroonian town of Bodo, close to the Nigerian border. Explosions killed at least 28 people and wounded 65. While no group claimed responsibility, Boko Haram is suspected.
27–28 Jan 2016	Weekend riot occurs in several villages in Dalori and suburbs of Maiduguri, the capital of Borno Province, with a total death toll of at least 65 people and over 130 injured. Residents claim the death toll was even higher, with as many as 100 people dead as a result of the raid.
29 Jan 2016	Two suicide bombers attack a school and Nigerian refugee housing in northern Cameroon, killing four people and wounding 12. While no group claimed responsibility, Boko Haram is suspected. A 12-year-old detonated himself in Nigeria's Gombi market, killing at least 11 people.
30 Jan 2016	At least 86 people are killed and hundreds injured in a Boko Haram attack on Dalori Village, 4km from Maiduguri, Nigeria.
9 Feb 2016	Two Boko Haram suicide bombers attack a Muslim funeral gathering in northern Cameroon, 10 km east of the Nigerian border. Six civilians are killed and thirty wounded, marking the first known Boko Haram strike in Cameroon at a funeral gathering. In the northeast Nigerian town of Dikwa, two female suicide bombers covertly enter an internally displaced persons (IDP) camp and detonate themselves, killing 60 people and wounding 78. Although no group claimed responsibility, Boko Haram is suspected.
13 Feb 2016	Members of Boko Haram attack Yakshari, killing 22 people.
19 Feb 2016	Two suicide bombers kill at least 24 people and injure 112 at a market in northern Cameroon.
27 Feb 2016	At least 92 militants are killed in a joint operation carried out by Cameroon's army and the Nigerian Army, freeing over 850 villagers in the Nigerian village of Kumshe on the border with Cameroon.
16 Mar 2016	Three female suicide bombers kill 22 people with 18 injured in Umarari Village, on the outskirts of Maiduguri, Borno State.
14 Apr 2016	CNN posts a video, showing some of the teenage girls abducted from Chibok that was sent to negotiators by their captors as a 'proof of life'.
20 Apr 2016	At least seven people are killed in a refugee camp in Nigeria after two female suicide bombers detonated themselves in the north-east of Nigeria near the border with Cameroon.

24 Apr 2016	Boko Haram are reported to have killed a total of 30 people during a raid in Alau village in Borno State.
4 Jun 2016	At least 32 people are killed and 67 injured after hundreds of members of Boko Haram attacked the city of Bosso in Niger; several militants were killed and injured.
14 Jun 2016	Ten fishermen are killed by militants, closely followed by 42 more deaths. The attack was executed by Boko Haram at Lake Chad in Cameroon.
17 Jun 2016	At least 24 people are killed and at least ten injured after Boko Haram militants attacked a funeral in Kuda, Nigeria.
26 Jun 2016	The Nigerian army claims they had rescued 5,000 people, mostly women and children, from four remote villages in north-east Borno state (Zangebe, Maiwa, Algaiti and Mainar), killing six Boko Haram fighters.
30 Jun 2016	At least 15 people are killed and dozens injured after a suicide bombing that targeted a mosque and a video club in Djakana, Cameroon.
8 Jul 2016	At least nine people are killed and dozens injured after a suicide bomb attack on a mosque in Borno; a second suicide bomb is detonated at another mosque.
12 Jul 2016	A Boko Haram attack in Borno State is deterred by the Nigerian Army resulting in the deaths of 25 militants. Two soldiers are killed during the attack.
2 Aug 2016	ISIL announces a new leader for Boko Haram – Abu Musab al-Barnawi – and runs an interview with the new leader in one of its magazines. Former leader Abubakar Shekau challenges the announcement while maintaining his allegiance to al-Baghdadi. As a result, Boko Haram splits into pro-Barnawi and pro-Shekau factions.
19 Aug 2016	Nigerian military claims Abubakar Shekau was fatally wounded and about 300 militants, including three senior Boko Haram commanders (Abubakar Mubi, Malam Nuhu and Malam Hamman), were killed in an air raid on the village of Taye in Borno State.
21 Aug 2016	Boko Haram attacks Kuburwa village, situated between Chibok and Damboa, Borno State, killing at least 11 people. A suicide bombing attack at a market in the city of Mora left at least three people dead and 24 injured.
27 Aug 2016	A land mine, allegedly planted by Boko Haram, kills four Chadian soldiers on patrol near Chad's border with Niger, security sources report.
14 Sep 2016	At least 30 Boko Haram militants and five Niger Armed Forces soldiers are killed in clashes near the village of Toumour in Niger's southeast Diffa Region.
17 Sep 2016	Chadian and Nigeri soldiers kill at least 38 Boko Haram militants in Niger; two soldiers were injured in the operation.
19 Sep 2016	Members of Boko Haram claim the killing of 40 Nigerian soldiers battling in Malam Fatori.
12 Oct 2016	Eighteen people are reported dead following an explosion in Maiduguri, Borno State.
17 Oct 2016	Boko Haram claims the killing of 20 soldiers in north-eastern Nigeria.
12 Nov 2016	240 Boko Haram fighters surrender in south-west Chad.
18 Nov 2016	Boko Haram suicide bombers kill six people, injuring many more in multiple bomb blasts.
28 Nov 2016	Nigerian soldiers kill at least 30 Boko Haram militants.

9 Dec 2016	Nigerian officials report that two explosions in the Nigerian town of Madagali killed 57 people and injured 177.
13 Dec 2016	Boko Haram militants attack a military base in Borno state village of Kamuya, resulting in numerous deaths.
23 Dec 2016	Nigerian President Muhammadu Buhari states that the Nigerian army has driven Boko Haram militants from the last camp in the Sambisa forest stronghold, forcing the militants to flee.
2017	
14 Jan 2017	Two soldiers are reported killed in Borno State in a roadside bombing. Three soldiers are killed by Boko Haram while ten attackers were also killed in Borno State. At least 17 people are killed by Boko Haram militants in Gnam-Gnam, Cameroon.
23 Jan 2017	Following a Boko Haram invasion of a Borno State village, eight people are killed; an unspecified number of women and children were abducted.
30 Jan 2017	15 people are killed by Boko Haram militants in Maiduguri, Nigeria. One man killed and three others injured in Fotokol, Cameroon, following a Boko Haram attack.
2 Feb 2017	An independent UN contractor and four others are killed in a suspected Boko Haram attack along Cameroon's border with Nigeria.
11 Feb 2017	Seven soldiers are killed and 19 injured in a Boko Haram ambush in Borno State.
30 Mar 2017	Boko Haram militants abduct 22 girls and women in two separate raids in north-east Nigeria.
5 May 2017	Nine Chadian soldiers are killed in a Boko Haram attack on an army post in the Lake Chad region. Approximately 40 Boko Haram militants are killed as the army responded to the attack on the Kaiga post, sources report. Five people are killed in northeast Nigeria in Maiduguri following an attack by two female suicide bombers.
15 May 2017	Nine members of the militant group arrive on motorcycles in Amarwa, a suburb of Maiduguri, and kill 11 farmers in their fields with machetes before escaping.
2 Jun 2017	Eleven people are killed after two suicide bombers attacked a displaced civilians' camp.
8 Jun 2017	At least 14 people are killed and 24 injured as Boko Haram suicide bombers staged multiple attacks, targeting mosques where Muslim worshippers were praying. The attack occurred while soldiers were trying to prevent another group of Boko Haram militants, attempting to invade the city.
18 Jun 2017	At least 12 people are killed and 11 wounded in attacks by five female suicide bombers in Borno, in the northeast of Nigeria.
11 Jul 2017	Boko Haram publicly executes eight villagers in northeast Nigeria who opposed the enforcement of its hardline form of Islam. Four Boko Haram suicide bombers kill 19 people and injured 23 in the northeast Nigerian city of Maiduguri.
25 Jul 2017	At least 69 people, both soldiers and civilians, are killed following an ambush of an oil exploration team in the Magumeri area of Borno, marking this Boko Haram's bloodiest attack in 2017.

5 Aug 2017	At least 31 fishermen are killed by Boko Haram militants in two separate attacks on the islands of Duguri and Dabar Wanzam in Lake Chad.
15 Aug 2017	Suicide bomb attack on Konduga market results in the death of 16 people, with over 80 sustaining injuries.

Table C.0.3 Longlist of key dates relating to ISIL

Date	Event
2013	
8 Apr 2013	Having expanded into Syria, the group Islamic State of Iraq (ISI) adopts the name Islamic State of Iraq and the Levant, also known as the Islamic State of Iraq and al-Sham.
9 Apr 2013	Baghdadi confirms in a statement that Jabhat al-Nusra in Syria is a branch of ISI to be incorporated into an expanded Islamic State of Iraq and al-Sham (ISIS). This is rejected by Jabhat al-Nusra's leader, al-Jowlani, who insists on remaining an independent faction based in Syria. From that point onward, both ISIL and Jabhat al-Nusra operate within the Syrian conflict.
2014	
10 Jun 2014	ISIL seizes Mosul, a northern Iraqi city of over one million inhabitants, after a few days of battle, fuelling the wider Sunni armed uprising across Iraq.
29 Jun 2014	ISIL releases an audio recording announcing establishment of a Caliphate – the Islamic State – across parts of Iraq and Syria.
5 Oct 2014	ISIL-linked military factions pledge allegiance to ISIL and later on the same day gain partial control of the Libyan city of Derna, with a population of 100,000 people. The group takes control of numerous government buildings, security vehicles, and local landmarks, using a football stadium for public executions.
2015	
7 Mar 2015	Abubakar Shekau, Boko Haram's leader since the death of founder Mohammed Yusuf in 2009, pledges allegiance to ISIL on behalf of Boko Haram.
26 Apr 2015	Boko Haram renames itself Islamic State West Africa Province (ISWAP).
10 Oct 2015	ISIL releases video of Somali members encouraging al-Shabaab to pledge allegiance to and join ISIL.
23 Oct 2015	Sheikh Abdulqadir Mumi, a prominent former 'spiritual leader' and recruiter for al-Shabaab, declares allegiance to ISIL, marking ISIL's first official outpost in East Africa.
2016	
26 Jan 2016	Rwandan police shoot dead a deputy imam at a mosque in Kigali who is suspected of inciting youth to join and fight for ISIL.
15 Feb 2016	Somalian President claims al-Shabaab has been training Boko Haram, aligned with ISIL, with Boko Haram encouraging al-Shabaab fighters to join ISIL.
8 Apr 2016	A new terrorist group, Jahba East Africa, pledges allegiance to ISIL in Somalia. In a statement, militants gave bayah (an oath of allegiance) to ISIL leader Abu Bakr al-Baghdadi

	and recognised him as the 'rightful Khalifa (leader) of all Muslims'.
3 Aug 2016	ISIL announces Abu Musab al-Barnawi as the new leader of ISWAP (Boko Haram), the former spokesman and son of the late founder. The reason for appointing a new leader is allegedly related to Baghdadi's disapproval of Shekau's use of child suicide bombers. Disputing the appointment, Shekau claimed a coup, and maintained his leadership and allegiance to Baghdadi, leading the group to split into pro-Barnawi and pro-Shekau factions.
24 Nov 2016	ISIL expands into the Sahel, establishes Islamic State in the Greater Sahara. Adnan Abu Walid al-Sahrawi pledges allegiance to ISIL in a video.
6 Dec 2016	The Libyan Government of National Accord (GNA), backed by US forces, reclaims full control of Sirte from ISIL after months of fighting. Sirte was the last remaining ISIL stronghold in Libya. Premature reports of Sirte's recapture had already been circulating since 5 December.
14 Dec 2016	At the 10 th session of the African Centre for Research and Study on Terrorism – held in Algeria on December 14 – the Algerian AU Peace and Security commissioner, Mr Smail Chergui, warned that up to 2,500 ISIL fighters were regrouping with the intention of relocating to parts of the Sahel, the Horn of Africa and Great Lakes.
2017	
5 Jan 2017	ISIL militants operating in Benghazi flee the city after more than two years of clashes. Thirteen pro-LNA (Libyan National Army) fighters and two ISIL fighters are killed as the group withdraws.
24 May 2017	Affiliate of ISIL claims responsibility for a suicide attack in Somalia, when a lone bomber blew himself up at a police checkpoint in Puntland, a semi-autonomous region in northern Somalia, killing five people. A statement released by ISIL's Amaq News Agency on Tuesday claimed responsibility for the attack. The bombing appears to be the first carried out by the small ISIL faction since February, when a statement on Amaq claimed responsibility for a gun attack on a hotel in Bosaso, a port city in Puntland, in which several hotel security guards and militants were killed.
31 Aug 2017	ISIL claims responsibility for a suicide attack in Algeria that resulted in the death of two police officers.
17 Oct 2017	ISIL loses control of its self-declared capital, the Syrian city of Raqqa. While US-backed forces fighting in Raqqa state that major military operations have ended, there are still pockets of resistance in the city.

Table C.0.4 Shortlist of key dates relating to al-Shabaab

Date	Event
2012	
9 Feb 2012	Al-Shabaab and al-Qaeda announce their formal merger. Former al-Shabaab leader Ahmed Abdi Godane says he 'pledges obedience' to al-Qaeda head Ayman al-Zawahiri.
2 Oct 2012	The Fall of Kismayo. Backed by local Somali forces, Kenyan troops sweep into Kismayo, ousting al-Shabaab from its last major stronghold, and cutting off a huge source of funding.
14 Dec 2012	Al-Shabaab Al-Mujahideen claimed via Twitter that its 'intelligence units' had carried out an attack in Mogadishu on 'a convoy carrying [a] top U.S. counterterrorism official. Brig.-Gen. Davis Julius,' the 'U.S. head of counterterrorism operations in E. Africa,' whose

	movements had been tracked by al-Shabaab intelligence for the past few weeks, 'as he began setting up a new US base in Mogadishu'. The attack had wounded him and also 'instantly kill[ed] senior AU escorts', the tweets claimed.
2013	
16 Jan 2013	Al-Shabaab (@hsmprss) tweets it has decided to execute Denis Alex, following the failed French operation on 12 January to free him. The execution, it said, would avenge the deaths of civilians killed during the operation. The tweet included a lengthy statement in English. Later that day, the group tweeted that Denis Alex is executed.
21–24 Sep 2013	Terror in Nairobi (Westgate attacks). In a multi-day raid on a Nairobi mall, al-Shabaab militants kill dozens in the deadliest terrorist attack in Kenya in fifteen years.
2014	
21 Feb 2014	Al-Shabaab attacked Villa Somalia, the presidential palace compound, with a car bomb before entering the compound to engage in a gunfight with guards. (14+ killed, unknown wounded).
15–17 Jun 2014	More than 60 killed in attacks in and near Mpeketoni, Kenya. Al-Shabaab claimed responsibility, but the Kenyan President Uhuru Kenyatta asserted that the attacks were organized by local politicians with ties to a network of gangs.
4 Sep 2014	Al-Shabaab leader Ahmed Abdi Godane killed by US air strike in Somalia.
2015	
3 Apr 2015	Al-Shabaab carries out an attack at Garissa University in Kenya, near the border with Somalia. This is the deadliest attack carried out in al-Shabaab history, with 147 killed. Four of the gunman are eventually surrounded in a dormitory, and die when their suicide vests detonate. 500 students escape with 79 injured.
23 Oct 2015	Sheikh Abdulqadir Mumi, a prominent former 'spiritual leader' and recruiter for al-Shabaab, declared allegiance to IS from his base in the remote Galgala Mountains, in the semi-autonomous region of Puntland, located in north-eastern Somalia. The move may turn out to be largely symbolic, given that reports indicate only 20 of Mumi's estimated 300 followers opted to switch sides, but it has at least given IS its first official outpost in East Africa.
1 Nov 2015	Al-Shabaab Islamist militants have attacked a hotel in the Somali capital, Mogadishu, killing at least 15 people. Gunmen used two car bombs to blast their way into the Sahafi hotel compound before storming the building, police said. Victims included at least one MP and the general who led the 2011 offensive that drove al-Shabaab out of Mogadishu. AU troops and government forces say they have regained control of the hotel after a fierce gun battle. The hotel is popular with Somalia's members of parliament. A website associated with al-Shabaab said it was responsible for the attack, which it said was carried out early in the morning to avoid civilian casualties. This is a clear change in strategy; until now, attacks in Mogadishu have been carried out during the day and evening, killing civilians who happen to be in the targeted area.
2016	
Jan 2016	Al-Shabaab carries out a massive attack on a Kenyan base in Somalia's el-Ade town in January 2016, killing, according to Somalia's President Hassan Sheikh Mohamud, about 180 soldiers. The Kenyan military disputed the number, but refused to give a death toll.
13 Feb 2016	Al-Shabaab claim responsibility for the failed suicide bombing of Daallo Airlines Flight 159, which occurred on February 2. The group stated that it originally intended to attack a

	Turkish Airlines flight and that it was targeting Western intelligence officials and Turkish NATO soldiers who were on board.
31 Mar 2016	US drone strike in southern Somalia kills Hassan Ali Dhoore and two others near the Kenyan border. Dhoore was thought to have facilitated the 2014 Christmas attack in Mogadishu.
2017	
8 Jun 2017	Seventy people, both soldiers and civilians, killed by al-Shabaab when it attacked a military base in Somalia.
11 Jun 2017	US strikes one of al-Shabaab's main training bases in Somalia (Sakow).
14 Oct 2017	At least 500 people reported to have been killed or seriously injured in Mogadishu following a truck bomb attack blamed on al-Shabaab. One of the most lethal terrorist acts anywhere in the world for many years.

Table C.0.5 Shortlist of key dates relating to Boko Haram

Date	Event
2012	
5–6 Jan 2012	Bombing kills at least 180 people in Kano, the deadliest attack to date.
23 Aug 2012	Unverified media reports claim that Boko Haram has begun peace talks with the Nigerian government. Boko Haram spokesman Abu Qaqa warns the media against making any more claims: 'We are telling the government to understand that if it is not ready to embrace Sharia and the Quran as the guiding book from which the laws of the land derive, there shall be no peace... [and media agencies] should understand that for us there is no difference between those fighting with guns and with the pen'.
25 Dec 2012	Nigeria – 27 Christians are killed in Maiduguri and Potiskum by suspected Boko Haram militants.
2013	
19 Feb 2013	Militants alleging to be Boko Haram kidnap a French family of seven in a national park in northern Cameroon; however, the affiliation with Boko Haram cannot be verified. The family is later released.
19 Apr 2013	Boko Haram battles with multinational security forces from Niger, Nigeria and Chad in the city of Baga in Borno State, leaving nearly 200 people dead, including many civilians. Shekau releases a video in May saying Boko Haram is not responsible for the civilian deaths.
17 Sep 2013	Boko Haram gunmen dress in military uniforms and stage a fake checkpoint near Benisheik in Borno, executing travellers and burning vehicles, leaving at least 143 people dead.
2014	
14 Apr 2014	Boko Haram militants kidnap approximately 276 teenage girls from a boarding school in Chibok in Borno. Officials there say some of the girls were able to escape.
3–4 Jun 2014	Hundreds of people are killed in raids by Boko Haram Islamic militants in the state of Borno, with some sources putting the death toll at 400 to 500.

17–20 Jul 2014	Boko Haram raids the Nigerian town of Damboa. By the time the raid ends, 66 residents have been killed and more than 15,000 have fled.
2015	
3 Jan 2015	A multi-day raid begins, where hundreds of Boko Haram gunmen seize the town of Baga and neighbouring villages in northern Nigeria, as well as a multinational military base, leaving bodies scattered everywhere and as many as 2,000 people feared dead.
10–11 Jan 2015	At least 20 are killed and 18 injured in Maiduguri after explosives strapped to a girl are detonated at a marketplace screening checkpoint. At least three are dead and 43 injured after two suicide bombs, strapped to girls, detonate in a mobile phone market in Potiskum. Boko Haram is suspected of being behind the attacks.
12 Mar 2015	In an audio message purportedly from an ISIL spokesman, the group announces that the caliphate has expanded to western Africa and that ISIL leader Abu Bakr al-Baghdadi has accepted Boko Haram's pledge of allegiance. On the same day, ISIL blows up the Iraqi army headquarters north of Ramadi, killing at least 40 Iraqi soldiers.
2016	
9 Feb 2016	(1) Two Boko Haram suicide bombers attacked a Muslim funeral gathering in northern Cameroon 10 km (6 miles) east of the Nigerian border. Six civilians were killed and another thirty were wounded. It is the first known Boko Haram strike in Cameroon at a funeral gathering, although the militants have made an attack on a baptism in the past. (2) Two female suicide bombers sneaked into an IDP camp and detonated themselves in the middle of it in the northeast Nigerian town of Dikwa. The blasts killed 60 people and wounded another 78. No group claimed responsibility but Boko Haram is suspected.
2 Aug 2016	ISIS announces a new leader for Boko Haram – Abu Musab al-Barnawi. It includes an interview with him in one of its magazines. Shekau challenges the announcement while maintaining his allegiance to al-Baghdadi. The group splits into pro- Barnawi and pro-Shekau factions.
23 Dec 2016	President Muhammadu Buhari has said that the Nigerian army has driven Boko Haram militants from the last camp in their Sambisa forest stronghold and that the terrorists are on the run.
2017	
8 Jun 2017	At least fourteen persons were killed and 24 injured as Boko Haram suicide bombers staged multiple attacks targeting mosques where Muslim worshippers were praying. The attack occurred while soldiers were trying to repel another group of Boko Haram fighters, who were trying to invade the city.
25 Jul 2017	In what was Boko Haram's bloodiest attack in 2017, at least 69 people, including soldiers and civilians, died after an ambush of an oil exploration team in the Magumeri area of Borno.
14 Oct 2017	At least 500 people reported to have been killed or seriously injured in Mogadishu following a truck bomb attack blamed on al-Shabaab. One of the most lethal terrorist acts anywhere in the world for many years.

Table C.0.6 Shortlist of key dates relating to ISIL

Date	Event
2012	
30 Nov 2012	Groups later affiliated with ISIL begin to gain a foothold in the Libyan city of Derna, declaring the establishment of the Battar Brigade.
2013	
8 Apr 2013	Having expanded into Syria, the group Islamic State of Iraq (ISI) adopts the name Islamic State of Iraq and the Levant, also known as the Islamic State of Iraq and al-Sham.
9 Apr 2013	Baghdadi confirms in a statement that Jabhat al-Nusra in Syria is an offshoot of ISI and would be subsumed into an expanded Islamic State of Iraq and al-Sham (ISIS). This is rejected by Jabhat al-Nusra's leader al-Jowlani, who insists on remaining an independent faction based in Syria. From that point onward, both ISIS and Jabhat al-Nusra operate within the Syrian conflict.
27 Aug 2013	Tunisian Government designated Ansar Al-Sharia a terrorist organisation, and proceeds to dismantle it via widespread arrests. As a result, many leave for Syria and join ISIL.
2014	
5 Oct 2014	ISIL-linked military factions pledge allegiance to ISIL and later that day gain partial control of the Libyan city of Derna, with a population of 100,000. The group takes control of numerous government buildings, security vehicles, and local landmarks, and a soccer stadium is now used for public executions. The Islamic State chapter in Derna is known as 'Barqa'.
10 Jun 2014	ISIL seizes Mosul, a northern Iraqi city of over one million inhabitants, after a few days of battle, 'thereby inflaming the wider Sunni armed uprising across Iraq.
29 Jun 2014	ISIL releases an audio recording announcing establishment of a caliphate – the Islamic State – across parts of Iraq and Syria.
2015	
7 Mar 2015	Abubakar Shekau, who has led Boko Haram since the death of founder Mohammed Yusuf in 2009, pledged allegiance to ISIL on Boko Haram's behalf. (ISIL confirmation on 12 March in public statement).
26 Apr 2015	Boko Haram renames itself Islamic State West Africa Province (ISWAP).
23 Oct 2015	Sheikh Abdulqadir Mumi, a prominent former 'spiritual leader' and recruiter for al-Shabaab, declared allegiance to IS from his base in the remote Galgala Mountains, in the semi-autonomous region of Puntland, located in north-eastern Somalia. The move may turn out to be largely symbolic, given that reports indicate only 20 of Mumi's estimated 300 followers opted to switch sides, but it has at least given ISIL its first official outpost in East Africa.
2016	
8 Apr 2016	A new terrorist group, Jahba East Africa, pledges allegiance to ISIL in Somalia. In a statement, militants gave bayah (an oath of allegiance) to ISIL leader Abu Bakr al-Baghdadi and recognised him as the 'rightful Khalifa (leader) of all Muslims'. Evidence its members

	are former al-Shabaab, with the new group criticising al-Shabaab.
24 Nov 2016	ISIL expands into the Sahel and establishes Islamic State in the Greater Sahara. Adnan Abu Walid al-Sahrawi pledges allegiance to ISIL in a video.
6 Dec 2016	Libyan GNA, backed by US forces, reclaims full control of Sirte from ISIL after months of fighting. Sirte was the last remaining ISIS stronghold in Libya. Premature reports of Sirte's recapture had already been circulating since 5 th December.
2017	
5 Jan 2017	ISIL Militants operating in Benghazi flee the city after more than two years of clashes. Thirteen pro-LNA fighters and two ISIL fighters are killed as the group withdraws.
24 May 2017	Affiliate of ISIL claims responsibility for a suicide attack in Somalia, when a lone bomber blew himself up at a police checkpoint in Puntland, a semi-autonomous region in northern Somalia, killing five people. A statement published by ISIL's Amaq News Agency on Tuesday claimed responsibility for the attack, which it said was carried out by one of its fighters. The bombing appears to be the first carried out by the small ISIL faction since February, when a statement on Amaq claimed responsibility for a gun attack on a hotel in Bosaso, a port city in Puntland, in which several hotel security guards and militants were killed.
17 Oct 2017	ISIL loses control of its self-declared capital, the Syrian city of Raqqa. US-backed forces fighting in Raqqa say 'major military operations' have ended, though there are still pockets of resistance in the city.

Annex D: Country profiles

This annex provides an overview of the security dynamics within the seven focus countries of this study, focusing not only on al-Shabaab, Boko Haram and ISIL but also on a wider range of militant groups that pose a threat to stability in Cameroon, Chad, Kenya, Nigeria, Somalia, Sudan and Uganda. Finally, Table D.0.1 presents Internet user statistics for these countries.

Cameroon

Cameroon is ranked by the Global Terrorism Index (GTI) as the thirteenth country in the world most affected by terrorism, based on number of deaths and attacks.⁴⁷ The GTI has further highlighted the large increase in terrorism faced by Chad by the group Boko Haram in 2016.⁴⁸ Despite the reduction in Boko Haram activities in Nigeria, Cameroon has faced a substantial increase in the number of deaths from terrorism and has suffered from increased incursions by Boko Haram into the country from Nigeria. In 2015, Cameroon joined the Nigerian led Multinational Joint Task Force (MNJTF) against Boko Haram, having suffered increased attacks from the group from 2014 onwards. It deployed 1,000 troops to its border with Northern Nigeria to counter the rising terrorist threat.⁴⁹

Cameroon has suffered from several substantial terrorist attacks in 2016 and 2017. In September 2017, Boko Haram burned down 109 homes in the town of Kossa, an attack condemned by the United Nations.⁵⁰ Cameroon has also experienced a number of suicide attacks including an attack on a mosque in 2016 that killed twelve civilians.⁵¹ Some 25 people were killed and 62 injured after a suicide bombing by Boko Haram militants at Bodo Market and a nearby military camp in 2016.⁵² In 2015, the country also suffered several suicide attacks including one in the border town of Fokotol and another by a teenage girl who targeted a mosque.⁵³ The main terrorism threat thus comes from Boko Haram, with 1,047 of the 1,081 deaths in 2014 and 2015 from terrorism attributable to Boko Haram; and the remaining 34 the result of attacks by al-Qaeda affiliates.⁵⁴

⁴⁷ Institute for Economics and Peace (2016).

⁴⁸ Institute for Economics and Peace (2016).

⁴⁹ BBC News (2017a).

⁵⁰ United Nations (2017).

⁵¹ Dearden (2016).

⁵² Chimtom (2015).

⁵³ Osborne (2015).

⁵⁴ Institute for Economics and Peace (2016).

Chad

Chad is ranked by the GTI as the twenty-seventh country in the world most affected by terrorism, based on number of deaths and attacks.⁵⁵ Chad has been a key ally for the US in counterterrorism efforts in the region, operating as a US partner in the Trans Sahara Counter Terrorism Partnership (TSCTP), with the US Navy and Marines supplying limited training to Chad's armed forces.⁵⁶ There has been increasing concern about the presence of the terrorist group Boko Haram in the country's Lake Chad basin region. The government is currently operating at a high level of security and has introduced screenings at border crossings to prevent the entry of Boko Haram members and Central African militias into the country.⁵⁷

Chad has suffered from terrorist attacks by Boko Haram.⁵⁸ Due to increased security and the work of the MJNTF, the number of terrorist attacks in Chad declined between 2015 and 2016.⁵⁹ A number of reported terrorist attacks with casualties have occurred in the Lake Chad region, involving the use of IEDs and the targeting of civilians.⁶⁰ In 2017, Boko Haram attacked a Chad military base in Lake Chad and has also conducted kidnappings, including that of a French national who was held for six weeks in May 2017.⁶¹ In 2015, current leader Idriss Déby imposed a state of emergency in the Lake Chad region following multiple attacks by the group in the area.⁶²

Kenya

Kenya is ranked by the GTI as the nineteenth country in the world most affected by terrorism, in terms of numbers of attacks and deaths.⁶³ The country is regarded as relatively stable but also suffers from high levels of unemployment, crime and poverty.⁶⁴ Having intervened in the conflict in Somalia in 2011 after a series of cross-border raids by al-Shabaab, Kenya has suffered a number of reprisal attacks including the 2013 Westgate shopping mall attack and the 2015 attack on Garissa University College.⁶⁵

Kenya's main terrorist threat thus emanates from al-Shabaab, which it has been engaged in fighting against since 2011 as part of AMISOM.⁶⁶ The country faces regular attacks from the terrorist organisation, including the beheading of nine Kenyans by the group in July 2017 in the town of Jima, and a June 2017 attack on a Kenyan military base in Somalia's Puntland region that killed an estimated

⁵⁵ Institute for Economics and Peace (2016).

⁵⁶ Campbell (2015).

⁵⁷ US Department of State (2017).

⁵⁸ Maclean (2016).

⁵⁹ US Department of State (2016).

⁶⁰ US Department of State (2016).

⁶¹ US Department of State (2017).

⁶² Central Intelligence Agency (2017).

⁶³ Institute for Economics and Peace (2016).

⁶⁴ BBC News (2018).

⁶⁵ Branch (2011).

⁶⁶ US Department of State (2016).

70 individuals.⁶⁷ The Kenyan government has further designated the Mombasa Republican Council (MRC) a terrorist organisation. A separatist movement, the group has argued for the city of Mombasa's secession from Kenya and police have accused the group of planning several attacks, though there is no evidence of any attacks having been perpetrated by the group thus far.⁶⁸ Kenya has also been the victim of an al-Qaeda terrorist attack in 1998, at the US embassy in Nairobi, which killed more than 220 people.⁶⁹

Nigeria

Nigeria is ranked by the GTI as the third country most affected by terrorism, based on number of deaths and attacks.⁷⁰ Although there has been a 32 per cent reduction in the number of terrorist attacks and a 34 per cent reduction in terrorism-related deaths in Nigeria in 2016, the country still faces a sustained threat from terrorist group Boko Haram. In 2015, Nigeria was appointed the lead nation in a Multinational Joint Task Force (MNJTF) designed to counter Boko Haram, also involving Chad, Niger, Cameroon and Benin.⁷¹

While Nigeria's most persistent terrorist threat comes from Boko Haram, the country has also been targeted by terrorist groups Fulani and Ansaru. In 2016, the fourth deadliest terrorist group was the Fulani militant group, which operates in Nigeria and parts of the Central African Republic.⁷² The group mainly operates in the central part of the country and was formed from the semi-nomadic Fula clan. In 2013, the group killed 80 people in total, but this number rose to 1,229 in 2014.⁷³ A total of 92 per cent of Fulani attacks are conducted against private citizens, given militant interest in taking over farmland.⁷⁴

Nigeria has further been targeted by the terrorist organisation Ansaru, a group formed in 2012 who threatened to attack Westerners in defence of Muslims.⁷⁵ The group is suspected to be an offshoot of Boko Haram and is aligned with the al-Qaeda faction, AQIM.⁷⁶ The group has taken several foreign nationals hostage, including British, French and Italian nationals.⁷⁷ It has also claimed responsibility for the deaths of two Nigerian soldiers in January 2013, as they prepared to deploy to Mali.⁷⁸ In 2016, however, Nigerian authorities arrested the group's leader, Khalid-al Barnawi, also subject to a US\$5m bounty.⁷⁹ In May 2017, al-Barnawi was charged by the Nigerian Federal High Court, located in Abuja, with the abduction and murder of several foreign nationals.⁸⁰

⁶⁷ Burke (2017a).

⁶⁸ Counter Extremism Project (2017d).

⁶⁹ Counter Extremism Project (2017d).

⁷⁰ Institute for Economics and Peace (2016).

⁷¹ BBC News (2015b).

⁷² Institute for Economics and Peace (2016).

⁷³ Buchanan (2015).

⁷⁴ Buchanan (2015).

⁷⁵ BBC News (2013).

⁷⁶ BBC News (2013).

⁷⁷ Agence French-Presse (2016).

⁷⁸ BBC News (2013).

⁷⁹ BBC News (2013).

⁸⁰ Gaffey (2017).

Somalia

Somalia is ranked by the GTI as the seventh country in the world most affected by terrorism, in terms of number of attacks and deaths.⁸¹ Like Sudan, Somalia's history has been affected by civil war, instability and political violence. As a consequence, this has allowed the Somali-based terrorist group al-Shabaab to control and influence territory and communities in parts of the country.⁸² The prevalence of al-Shabaab has been linked to several factors in Somalia, which are said to include high rates of youth unemployment, fear of victimisation by al-Shabaab, a lack of education, and grievances relating to the targeting of Somalian towns and villages by AMISOM.⁸³

Al-Shabaab has had a strong foothold in Somalia since 2006, when it surfaced as an insurgency opposed to Ethiopian and US intervention in Somalia, which toppled the Islamic Courts Union (ICU) rule and installed a Transitional Federal Government (TFG).⁸⁴ Al-Shabaab controls large parts of rural Southern Somalia and carries out regular attacks, including suicide bombings in the capital, Mogadishu. In October 2017, Mogadishu experienced the worst terrorist attack in Somalia's history when a truck bomb led to the deaths of 276 individuals, with a further 300 injured.⁸⁵ The country has further experienced problems with al-Qaeda, firstly in the 1990s when the terrorist group attempted to work closely with AIAI, and most recently in 2012 when al-Shabaab pledged allegiance to al-Qaeda in a video posted by then-leader Godane.⁸⁶

Most recently, Somalia has seen a growing threat from ISIL and its affiliates. Several members defected to the group in 2017 and an ISIL affiliate further claimed responsibility for a suicide bombing in northern Somalia in April 2017, when a lone suicide bomber detonated his device at a police checkpoint in Puntland.⁸⁷ This follows a gun attack at a hotel in the port city of Bosaso, Puntland, with ISIL's Amaq News Agency claiming ISIL responsibility for both attacks.⁸⁸

Sudan

Sudan is ranked by the GTI as the eighteenth country in the world most affected by terrorism, in terms of attacks and deaths.⁸⁹ Sudan is categorised as an 'at-risk' country according to the UNDP's regional classification system,⁹⁰ with the country demonstrating 'several distinct dynamics and characteristics that place it at risk for violent extremist groups to take hold'⁹¹; for example, with almost 47 per cent of the population living below the poverty line.⁹² Sudan's history has been affected by civil war and violent

⁸¹ Institute for Economics and Peace (2016).

⁸² UNSOM (2017).

⁸³ Hassan (2012).

⁸⁴ Cohn (2010).

⁸⁵ Burke (2017b).

⁸⁶ Joscelyn (2012).

⁸⁷ Gaffey (2017).

⁸⁸ Gaffey (2017).

⁸⁹ Institute for Economics and Peace (2016).

⁹⁰ UNDP (2015, 13).

⁹¹ UNDP (2015, 13).

⁹² UNDP (2017, 55).

conflicts and the country has historic ties to a range of violent extremist groups. The government of Sudan has taken steps in recent years to cooperate with other countries and international organisations in preventing and countering violent extremism.

A range of militant groups have reportedly been active in Sudan over the years, including al-Qaeda, Hezbollah, Hamas, Palestinian Islamic Jihad, al-Shabaab, the Abu Nidal Organization, Jamaat al-Islamiyya, and Egyptian Islamic Jihad.⁹³ In recent years, the threat of ISIL activity in the country has become a growing concern, particularly following the high-profile ISIL recruitment of a number of foreign terrorist fighters from Khartoum's University of Medical Sciences and Technology from 2015.

With the exception of an 11-year hiatus (1972 to 1983), civil war has been a feature of Sudan's history since the year before independence in 1956.⁹⁴ While the civil war is traditionally depicted as a conflict between the mainly Arab and Muslim North and the mainly Christian South, the reality is that there have been several interconnecting and conflicting civil wars devastating Sudan, particularly since the 1980s.⁹⁵ The country is characterised by cultural diversity and a range of ethnic groups, which have reportedly contributed to the conflict dynamics.⁹⁶

Uganda

Uganda is ranked by the GTI as the fortieth country in the world most affected by terrorism, in terms of number of attacks and deaths.⁹⁷ Despite experiencing a military coup and a 20-year insurgency in relation to the Lord's Resistance Army (LRA) – a Christian insurgent movement – Uganda remains a relatively stable and prosperous country, and experiences far fewer instances of terrorism compared to other nations on the continent. However, the country experienced a terrorist attack by al-Shabaab in 2010 and considers the LRA a terrorist organisation.

Uganda has contributed to the AMISOM mission in Somalia, first deploying police to the region in 2010.⁹⁸ It has further provided 201 police officers, 140 formed police units, 60 individual police officers and one senior leadership team officer.⁹⁹ Uganda suffered a substantial terrorist attack in 2010 in the capital, Kampala, by al-Shabaab militants at a sports bar when a bomb killed 74 people,¹⁰⁰ with the group claiming that this was a reprisal for Uganda's role in leading the AMISOM mission in Mogadishu.¹⁰¹ Uganda continues to face a terrorist threat from al-Shabaab, with the group releasing a video in 2015 threatening to attack Uganda and Burundi due to their troop presence in Somalia.¹⁰² In 2014, Ugandan authorities arrested 19 suspected al-Shabaab insurgents planning to carry out bomb attacks in the

⁹³ Bhattacharji (2008).

⁹⁴ Shillington (2012).

⁹⁵ Shillington (2012).

⁹⁶ Griffiths (2016).

⁹⁷ Institute for Economics and Peace (2016).

⁹⁸ AMISOM (2017).

⁹⁹ AMISOM (2017).

¹⁰⁰ Rice (2011).

¹⁰¹ Rice (2011).

¹⁰² Iaccino (2015).

country.¹⁰³ Uganda further faced attacks from the LRA from 1986–2006, including violence against civilians, but has not been considered a threat to the same extent since 2006.¹⁰⁴

Table D.0.1 presents a comparative overview across Cameroon, Chad, Kenya, Nigeria, Somalia, Sudan and Uganda of Internet user statistics, highlighting a significant increase across all seven countries between 2000 and 2017.

Table D.0.1 Internet user statistics

Country	Population 2017	Internet users Dec 2000	Internet users Jun 2017	Internet growth (% 2000–2017)
Cameroon	24,513,689	20,000	6,128,422	24,445.90%
Chad	14,965,482	1,000	748,274	74,727.40%
Kenya	48,466,928	200,000	43,329,434	21,564.70%
Nigeria	191,835,936	200,000	91,598,757	45,699.40%
Somalia	11,391,962	200	900,000	449,900.00%
Sudan	42,166,323	30,000	11,806,570	39,255.20%
Uganda	41,652,938	40,000	19,000,000	32,457.80%

SOURCE: Internet World Stats (2018).

¹⁰³ AFP (2014).

¹⁰⁴ BBC News (2017b).

Annex E: Social media and communications platforms

This annex outlines the various social media platforms, communications technologies and apps referred to in the final report. For each platform, Table E.0.1 offers a brief description of the platform itself and of relevant security concerns in relation to the technology.

Table E.0.1 List of social media and communication platforms

Platform	Description	Security issues
Ask.fm	Ask.fm is a social media platform that allows users to ask and answer questions after registering an anonymous profile.	ISIL has used the anonymity of Ask.fm to protect platform users from detection by law enforcement. The platform has been used to engage with potential recruits and to encourage emigration to ISIL controlled territories (e.g. the 2014 case of three Denver girls leaving the US for Syria). <i>Source: Dewey (2014).</i>
Baaz	Baaz is a social media platform that allows users to combine all social messaging accounts (e.g. Twitter, Facebook) into one streamlined feed.	In 2017, media groups linked to ISIL, Nashir News Agency and Amaq News Agency, used Baaz to post extremist propaganda. <i>Source: Smith (2017).</i>
Dawn of Glad Tidings	Dawn of Glad Tidings was ISIL's own computer app, developed by a member in 2014. Though now defunct, the app was available to download from Google Play in 2014.	When active, Dawn of Glad Tidings allowed users to bypass Twitter spam filters and authorised the app to upload multiple posts on their behalf. <i>Source: Farwell (2014).</i>
Facebook	Facebook is a free social networking site that allows registered users to create profiles, upload photos and videos, send messages and communicate with friends, family members and colleagues.	As described in Chapters 3–5 of the final report, al-Shabaab, Boko Haram and ISIL have used Facebook to radicalise individuals and spread violent extremist ideology. <i>Source: Chapters 3–5 of final report.</i>
Kik	Kik is a free instant messaging mobile app that allows users to exchange messages, play online games, watch videos and listen to music. The app is also connected to the online thread service Reddit.	There is evidence of ISIL using Kik to engage with and recruit individuals and to coordinate frontline attacks and black market deals. <i>Source: Shabi (2015).</i>

Telegram	Telegram is a non-profit, cloud-based instant messaging service available for multiple platforms including Android, iOS and Windows Phone that uses end-to-end encryption.	Known as ISIL's 'preferred' platform, the group has used public and private channels on Telegram to spread its violent extremist message, recruit individuals, and plan activities and attacks. App encryption has allowed ISIL to perform these activities without disruption by security services. <i>Source: Bloom et al. (2017).</i>
Twitter	Twitter is a free social networking, microblogging service, allowing users to share short posts (Tweets).	As expanded on in Chapters 3–5 of the final report, al-Shabaab, Boko Haram and ISIL have used Twitter to radicalise individuals and to attract attention to their aims and activities. <i>Source: Chapters 3–5 of final report.</i>
WhatsApp	WhatsApp is a free social media messaging app that allows users to exchange messages, photos and voice recordings using end-to-end encryption.	WhatsApp's end-to-end encryption offers ISIL users a 'place to hide', allowing them to communicate on operations, attacks and other activities without detection by the security services. <i>Source: Graham (2016).</i>

Annex F: Twitter data analysis approach

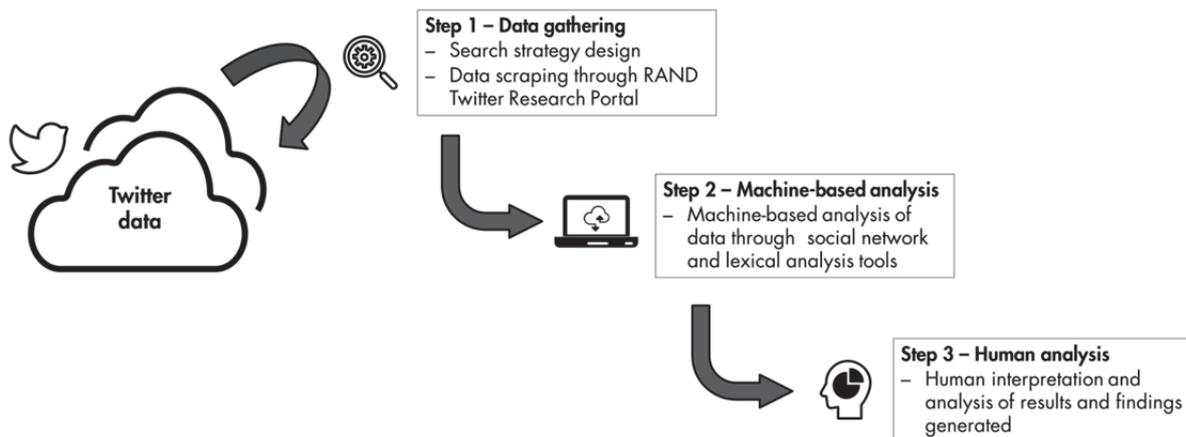
This annex outlines the methodology used to collect and analyse Twitter data – one of the three components of the study methodology, along with the structured literature review and key informant interviews described in Section 1.3 of the final report.

The Twitter data collection and analysis approach involved three steps:

1. Designing and running targeted search queries aimed at scraping (i.e. gathering) relevant Twitter data and building a project Twitter dataset.
2. Machine-based analysis of the project Twitter dataset through tools employing social network and lexical analysis approaches.
3. Human-based analysis and interpretation of results and findings generated through machine-based tools.

Figure F.0.1 below provides a high-level, visual overview of the approach used to collect, analyse and interpret Twitter data as part of this project.

Figure F.0.1 Overview of approach for collecting, analysing and interpreting Twitter data



Step 1 – Data crawling

The first step for the analysis of Twitter data entailed the crawling of relevant tweets from the broader corpus of Twitter data generated since 2006. The RAND Corporation has access to all tweets posted since 2006 through its in-house Twitter Research Portal (henceforth ‘the portal’). The portal was used as part of this project to search for and gather all tweets relating to the terrorist groups of interest associated with specific time periods and from selected geographic areas.

The RAND study team first designed a suitable search strategy for querying Twitter data since 2012 and in the English and Arabic languages. Table F.0.1 provides an overview of the search strategy used to build search queries on the portal and to scrape Twitter data. As Table F.0.1 shows, queries were tailored to the three groups (i.e. al-Shabaab, Boko Haram and ISIL). For each group, the strategy was designed to capture tweets that:

1. Present group-specific keywords.
2. Have been posted from one of the selected target countries.
3. Have been posted on the day of, prior to, or following a key date relating to the terrorist group(s).

Table F.0.1 Overview of the Twitter data collection strategy

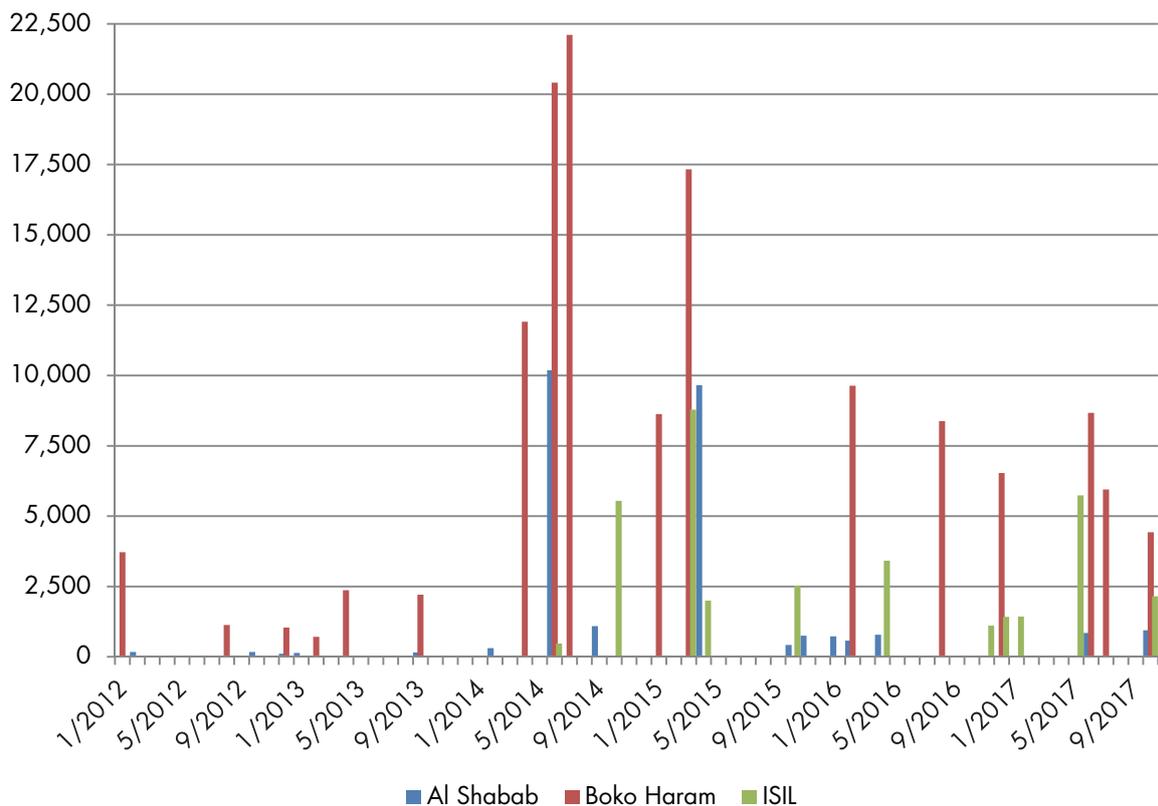
	Al-Shabaab	Boko Haram	ISIL
Keywords	Al-Shabaab OR Al-Shabab OR Al Shabaab OR Al Shabab OR الشباب	Boko Haram OR “Islamic State West Africa Province” OR ISWAP OR بوكو حرام OR Ansaru	Islamic State OR Daesh OR ISIS OR ISIL OR داعش OR الدولة الإسلامية
Languages	English, Arabic		
Countries	Cameroon, Chad, Kenya, Nigeria, Somalia, Uganda, Sudan		
Dates	Please refer to Annex C for the ‘key dates’ relating to the three groups. Tweets posted the day of, prior to or following each of the ‘key dates’ presented in Tables C.0.4–C.0.6 were included in the project’s Twitter dataset.		

Once the search strategy was developed, the next step involved running individualised database queries to capture relevant tweets. While a single research query on the portal can combine multiple key words and geographical terms, it can contain only a single continuous time period. Since the project identified multiple, separate time periods of interest for each terrorist group, it was necessary to construct multiple queries (51 overall) to capture the data of interest. In the final data pull, three queries on ISIL were excluded because the estimates of their data payload were nil. All three queries that were discarded fell within the 2012 to 2013 period, when ISIL activity was not as widely discussed in the news and online.

The geo-inferencing component of the queries employed two overlapping approaches. Firstly, a query would check the country field contained in a tweet’s metadata against a predetermined list of countries of focus (i.e. Cameroon, Chad, Kenya, Nigeria, Somalia, Sudan, Uganda). Secondly, the query would search the user’s biographical profile information for mentions of key localities within each country, such as capital city districts, and large regional centres, or towns.

The queries run through the portal resulted in 223,152 tweets across the selected dates and terrorist groups, with 27,741 tweets relating to al-Shabaab, 159,095 relating to Boko Haram, and 36,316 pertaining to ISIL. Figure F.0.2 provides an overview of the distribution of the tweets crawled across groups and time.

Figure F.0.2 Number of tweets downloaded by date for each terrorist organisation of interest



SOURCE: RAND Europe analysis (2018).

Steps 2 & 3 – Machine-based analysis of Twitter data and human interpretation of results

The second and third steps in the analysis of Twitter data entailed:

1. Machine-based analysis of the Twitter dataset created in Step 1 using tools employing social network and lexical analysis techniques.
2. Human analysis and interpretation of results produced by machine-based tools.

Due to the closely interlinked nature of these activities, these steps are discussed jointly in the following paragraphs.

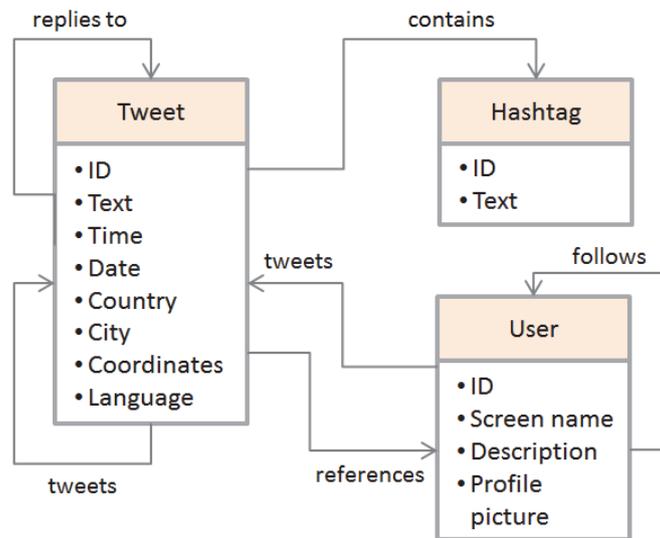
Conceptualising and structuring social media data

The processing and analysis of social media data requires the development of adequate data modelling structures that can capture and make sense of the data. Social media data typically comprise a collection of nodes characterised by a series of attributes and connected to one another through interactions and relationships (Brown et al. 2017). When analysing social media data, therefore, a first necessary step entails the evaluation of data as a whole with a view to making sense of their structure and meaning by identifying entities, their attributes, and how they are related. The goal of this activity should be the creation of a data model.

In the context of Twitter data, individual attributes of users, their tweets and hashtags employed, as well as the interconnecting relationships, can be modelled in a framework or conceptual model akin to that

presented in Figure F.0.3 below. This conceptual framework contains properties (elements used to describe other elements, consisting of key-value pairs), nodes (elements, usually of a specific type, that contain properties), and relationships (representing associations between nodes) associated with Twitter users, their posts and their interactions.

Figure F.0.3 Conceptual model of relations in Twitter data



SOURCE: RAND Europe analysis, adapted from Brown et al. (2017).

Further, the structure of the conceptual model determines requirements for how to clean and transform the data collected. Following data scraping, data collected are therefore analysed to identify possible sources of inconsistencies that could interfere with analysis. Such inconsistencies are subsequently removed or resolved using statistical techniques. Lastly, in the transformation stage, the data is parsed to extract and structure the information.

On the basis of this approach, data collected for the purpose of this project was cleaned resulting in 223,152 tweets associated with 59,490 unique Twitter accounts (nodes) tied by 111,358 links (edges) among them, showing mentions or retweets of one user by another.

These data were subsequently analysed with two separate approaches: network and lexical analysis. This was done to apply a range of statistical and other advanced analytical methods and investigate the content of the tweets collected, as well as the relations underpinning interactions among Twitter users. These methods are presented in greater detail below.

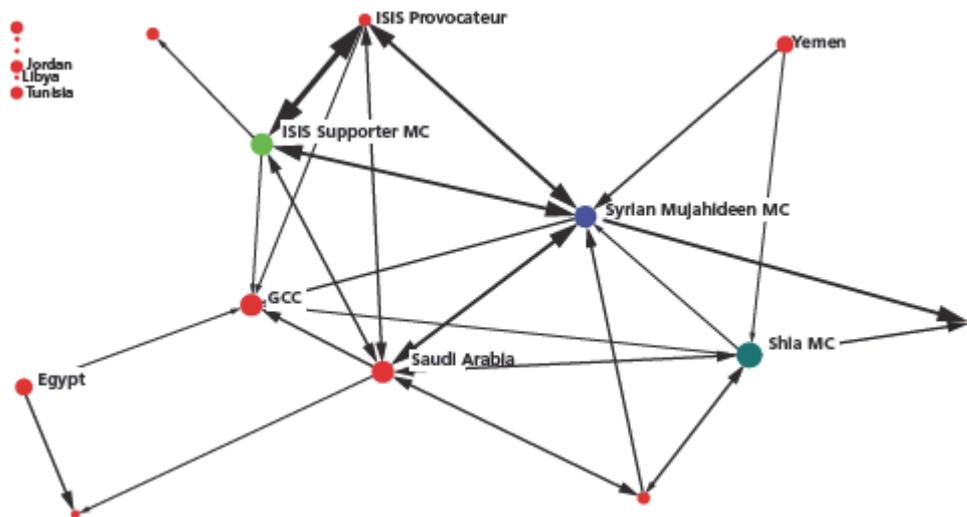
Social network analysis

Social network analysis is a formal quantitative method for the study of social structure, i.e. the potentially complex network of relationships between people. It uses relational data to generate metrics that identify key nodes and network characteristics as well as visualisations, which illustrate network shape and organisation. At a basic level, the required data for network analysis consist of a set of actors and the presence or absence of a particular type of relationship between actors – collected into a binary, symmetric network. At a more advanced level, information about relationship strength, relationship direction, or

even multiple types of relationships among the set of actors is collected into a weighted, directed network or set of networks (sometimes called a multigraph).

In an undirected or symmetric network, an edge or tie (or relationship) from X to Y implies an equal edge from Y to X (the relationship is symmetric), whereas in a directed network, an edge from X to Y does not imply that an equal edge exists from Y to X. In weighted or valued networks, edges have values representing the strength of the relationship between X and Y, while in unweighted, or binary, networks, edges take on values only of one or zero, indicating either the presence or absence of a relationship but not describing the strength of the relationship. Relationship data can be shown in a network diagram, sometimes called a network graph or simply network. Network graphs represent nodes as circles or squares, with the relationships as lines connecting them. Arrowheads represent the direction of the relationship; undirected or binary networks often will not have arrowheads in the network graph. An example of a network diagram from a previous RAND study is presented in Figure F.0.4.

Figure F.0.4 Sample network diagram



SOURCE: Bodine-Baron et al (2016)

For the Twitter analysis presented in the final report, the network is weighted and directed, with nodes representing Twitter accounts and edges representing the number of Twitter mentions. Attribute data, data involving particular characteristics of nodes, can also be combined with relationship data for a richer picture of the network and interactions between actors. In the situation where the nodes in the network represent Twitter accounts, these sorts of data can include geographic location, stance toward the terrorist groups, or anything uniquely related to the given node.

The network analysis was conducted in an iterative approach to find and characterise different communities within the dataset and to determine the relative strength and weaknesses of connections between specific communities and highlighting the different roles that each community plays within the Twitter conversation.

In principle, for each partition in the network the algorithm analyses modularity, i.e. the ratio of the number of edges within each community to the number of edges between each community, minus the

ratio that would be expected from a completely random partition. Analysing the modularity's partial derivatives by changing the structure of the partitions, the algorithm can then iteratively find an optimal allocation of communities such that communication among users within a community is maximised and communication across communities is minimised. The users (nodes) and the links between them are then visualised using a standard network layout in which each community is defined by different colour.

To analyse the strength of ties within the selected communities, we examined the community networks using measures looking at the importance of individual nodes, as well as the network structure as a whole. To analyse the importance of individual nodes, i.e. to identify the key players and their relative ordering, we looked at the structural power a node has through its relationships to others in the network.

Lexical analysis

We used RAND-Lex, a proprietary suite of analytic tools created by RAND Corporation researchers, to perform rigorous and complex text analytics. RAND-Lex includes statistical testing, expert workflows, and tool-tips that allow users to answer policy questions through empirical analysis of text collections that are too large for humans to read and analyse manually.

It should be noted that RAND-Lex is meant to leverage, but not replace human analysis. Machines and RAND-Lex tools are not able to discern meaning, but rather enable human analysis to interpret results stemming from much larger corpora than it would be otherwise possible to synthesise at once. Further, although machines are unable to generate sophisticated analysis of meaning or to reproduce the contextual meaning-making of human reading, analysis of text is not biased or variable in attention in the way human reading can be. As such, using hybrid human and machine approaches to analyse large qualitative text datasets is an emerging and valuable practice. Hybrid approaches to qualitative data using both traditional human and software-based text mining are compatible and complementary. Both approaches are inductive and grounded in data, challenging analysts' preconceptions, while increasing the validity and reliability that qualitative analysis seeks, particularly at scale.¹⁰⁵

For the purpose of this project, we employed RAND-Lex to perform comparative lexical analyses on corpora of tweets. Two main tests were performed:

- **Keyness analysis.** This test discovers words that are conspicuously over-present or absent in a group of texts, i.e., which words show up more or less often than expected.
- **Collocation analysis.** This test discovers the connections between words, i.e. which words appear near each other in statistically significant ways.

These tests are described in greater details in the following sections.

Keyness analysis

Keyness analysis in RAND-Lex uses a Dunning's log-likelihood test¹⁰⁶ of how often words appear in a target collection of text, relative to how often we would expect them to appear in a representative sample

¹⁰⁵ Yu et al. (2011).

¹⁰⁶ Dunning (1993).

of language.¹⁰⁷ Keywords identify distinctive words in a text collection as well as weighting over/under-presence through the log likelihood score.

While a threshold of 6.635 (99th percentile; 1 per cent level; $p < 0.01$), and 10 minimum occurrences can be considered an ‘interesting and a meaningful pattern’¹⁰⁸ for very general text or discussion, we suggest a higher threshold of 10.83 (99.9th percentile; 0.1 per cent level; $p < 0.001$) and 20 minimum occurrences¹⁰⁹ for more focused text (e.g. a corpus of discussion about a particular topic).

Collocate extraction

Extracting collocates (repeated patterns of word co-occurrence) is a long-standing technique in text analysis.¹¹⁰ There are a lot of different collocate extraction methods, but no single ‘best’ method – different association measures detect different kinds of collocates.¹¹¹ RAND-Lex uses both log-likelihood ratios¹¹² (LL) and pointwise mutual information score (PMI),¹¹³ because these two very different association measures detect collocates differently. One empirical evaluation of different methods of collocation methods found PMI to be the most efficient in recall and precision.¹¹⁴ However, because PMI is extremely sensitive to rarity,¹¹⁵ and is not a measure of statistical significance,¹¹⁶ LL and PMI complement each other.

¹⁰⁷ Scott (1996; 1997; 2012).

¹⁰⁸ Hardy (2007).

¹⁰⁹ Potts & Baker (2012).

¹¹⁰ Xiao & McEnery (2006).

¹¹¹ Bouma (2009).

¹¹² Dunning (1993).

¹¹³ Church & Hanks (1990).

¹¹⁴ Thanopoulos et al. (2002).

¹¹⁵ Manning & Schütze (1999).

¹¹⁶ Inniss et al. (2006).

Annex G: List of interviewees

We are grateful to the numerous experts who took part in interviews and informed the conclusions of this study. Where consent has been given, their names and/or affiliations are listed in the table below. Contributions have been anonymised in Table G.0.1 and throughout the final report in one case where the interviewee has requested to remain anonymous.

Table G.0.1 List of interviewees

Name	Organisational affiliation	Stakeholder type	Case study expertise	Country focus	Date of interview
Isaac Olawale Robert	Professor, University of Ibadan	Academic expert	Boko Haram	Nigeria	8 September 2017
Maura Conway	Professor, Dublin City University	Academic expert	ISIL	N/A	8 September 2017
Benjamin Nickels	Researcher, Africa Center for Strategic Studies	Academic expert	Al-Shabaab, Boko Haram and ISIL	N/A	15 September 2017
Blaise Bebey Abong	Diplomat, Ministry for External Relations of Cameroon	Policy expert	Boko Haram	Cameroon	16 September 2017
Innocent Chiluwa	Professor, Covenant University	Academic expert	Boko Haram	Nigeria	18 September 2017
Uyo Salifu	Researcher, Institute for Security Studies	Academic expert	Boko Haram and al-Shabaab	Nigeria and Cameroon	18 September 2017
Anonymous	Co-founder and Representative, anonymous civil society organisation	Civil society representative	Al-Shabaab, ISIL	Uganda	20 September 2017
Anonymous	Researcher	Academic expert	Al-Shabaab	Kenya	22 September 2017

Zahed Amanullah	Institute for Strategic Dialogue	Academic expert	ISIL, al-Shabaab	N/A	16 October 2017
Anonymous	Director, civil society organisation	Civil society representative	Al-Shabaab	Kenya	17 November 2017
Anonymous	Director, research institute	Academic expert	ISIL	N/A	15 December 2017
Anonymous	Local expert working in Sudan, Kenya and Niger	Local expert	ISIL	Sudan, Kenya, Niger	11 January 2018
Fauziya Abdi	Programme Manager Specialist (Preventing Violent Extremism, PVE), UNDP Regional Service Centre for Africa	Policy expert	N/A – discussion focused on programming	Somalia, Kenya, Uganda, Kenya, Nigeria, Chad, Cameroon	16 January 2018
Anonymous	Twitter	Industry representative	N/A	N/A	16 January 2018

Annex H: List of interview questions

This annex provides an overview of the types of questions asked during the research interviews. The interviews were semi-structured, which means that the RAND study team used the list of questions as a guide to touch upon the key topics relevant for this study, rather than following a rigid protocol.

Protocol: 'Social media in Africa: a double-edged sword for security & development'

Part 1: Introduction

- Research team introduction and study context
- Do you have any questions about the study before we begin?
- Please could you tell us briefly about your current role and responsibilities?
- Which of the three terrorist groups (Boko Haram, al-Shabaab and/or ISIL) does your expertise cover? [*interview tailored to this*]

Part 2: Online radicalisation

1. Which social media platforms do ISIL, Boko Haram and/or al-Shabaab make use of?
2. How often do these groups tend to use social media, and what is it mostly used for? [*Prompts: e.g. recruitment, coordination, training, propaganda, etc.*]
3. How (if at all) has the use of social media by these groups changed over time? What trends can be observed?
4. In your view, how effective has social media been in:
 - A. Attracting new recruits to these groups and radicalising individuals?
 - B. Training followers in new tactics?
 - C. Disseminating propaganda?
 - D. Coordinating and communicating with followers?
 - E. Achieving other objectives (please describe)?
5. What factors are likely to contribute to online radicalisation in Africa? [*Prompts: e.g. increased Internet access, socio-economic inequalities, anti-state grievances, etc.*]

Part 3: Counter-radicalisation

6. What steps have local, state and regional actors taken to counter radicalisation in Africa? Please elaborate.
7. How far have counter-radicalisation interventions focused on addressing online radicalisation?

8. Have these interventions themselves built innovative technological approaches into their design?
If so, please elaborate.
9. To what extent have government actors collaborated with ISPs (Internet service providers) and/or social media companies in countering the threat from online radicalisation?
10. In your view, how effective have these counter-radicalisation efforts been?
 - A. What have been the main benefits of these interventions?
 - B. What have been the main shortcomings relating to their design and implementation?
 - C. How do you think these challenges can be addressed more effectively in the future?

Part 4: Interview close

- We have now covered the questions we wanted to ask you. Do you have any further comments or observations?
- Can you recommend any relevant literature sources that we should consult as part of this study?
- If we have further questions, can we get back to you?

Thank you very much.

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